

GRENADE DISPENSE MECHANISM
FOR NON-SPIN DUAL PURPOSE IMPROVED
CONVENTIONAL MUNITIONS

ABSTRACT TO DISCLOSURE

5 Grenade dispensing mechanism for non-spin or low spin dual purpose improved
conventional munition launched from inside a projectile. At a pre-determined point along
the trajectory, the projectile time fuze which is set at the gun functions to provide
initiation output to the payload expulsion charge assembly. The said assembly contains a
propellant which when ignited, produces a gas pressure acting on a pusher plate which
10 acts as a piston. The gas pressure increases with time (msec) until the forces of the gas
pressure acting on the pusher plate through the grenade payload to the base/tail assembly
are sufficient to shear the thread attachment of the base assembly to the projectile body
section. An obturator band serves to obturate or seal the expulsion gas pressures to
prevent excessive gas blow-by as the payload canister assembly travels through the rifled
projectile body section. Upon thread shear, the base separates from the projectile body
permitting the movement of the grenade payload toward the aft open end of the projectile
body. The projectile payload section contains the space occupied by the warhead or
payload canister assembly. The steel cylindrical canister encloses the grenade sub-
package. A pre-engraved rotating band attached to the payload canister as it travels
20 through the projectile section rifling creates a torque thus the grenades emerge from the
projectile body with rotational and tangential velocity determined by their position in the
payload section. This rotational and translational velocity causes the grenades to disperse,
arm and stabilize to form a large approximately uniform, distribution of grenades in a
pattern effects over a target area. Mechanism can be adjusted to handle a variety of other
25 submunitions, anti-personnel, anti-material.